DOCUMENT RESUME

ED 343 303 EC 300 982

AUTHOR Singer, Judith D.
TITLE Once Is Not Enough: Former Special Educators Who Return to Teaching.
INSTITUTION Harvard Univ., Cambridge, Mass. Graduate School of Education.
SPONS AGENCY National Academy of Education, Cambridge, MA.
PUB DATE Nov 91
NOTE 35p.; Funds were also provided by the Milton Fund of Harvard University.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Age Differences; Career Development; *Disabilities; Elementary Secondary Education; *Employment Patterns; Faculty Mobility; *Labor Turnover; Longitudinal Studies; Racial Differences; Sex Differences; *Special Education Teachers; *Teacher Employment; *Teacher Persistence; Teacher Supply and Demand
IDENTIFIERS Michigan

ABSTRACT

Longitudinal data were used to track 2,695 special educators who were hired by the Michigan public schools between 1972 and 1981 and stopped teaching between 1973 and 1983, to determine their rate of reentry into Michigan public schools by 1985. An estimated 34 percent of the former educators reentered Michigan classrooms within 5 years of leaving, and an estimated 58 percent of those who did so then stayed for more than 7 years. The longer a former special educator had taught, the more likely he or she was to return. A teacher's sex or age was unrelated to the rate of reentry, though a race differential was found, with former educators who were black being more likely to return. The paper concludes that these patterns demonstrate that a return to teaching after a brief interruption may be a common career path and that the pool of former special educators is a viable and vital source of teacher supply. (Approximately 80 references) (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED343303

Once Is Not Enough:
Former Special Educators Who Return to Teaching

Judith D. Singer

Harvard University
Graduate School of Education

November 1991

Author's Note: This work was supported by a Spencer Post-Doctoral Fellowship from the National Academy of Education and a Fellowship from the Milton Fund of Harvard University. A special thanks to Richard J. Murnane for providing the data used in this paper. Please address correspondence to Judith D. Singer, Associate Professor of Education, Harvard University, Graduate School of Education, Larsen Hall, Cambridge, MA 02138, (617) 495-1961.

Running Head: Special Educators Who Return to Teaching

EC 300982

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Judith Singer
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Once Is Not Enough:
Former Special Educators Who Return to Teaching

Abstract

Is all teacher attrition permanent or do some former special educators eventually return to the classroom? In this paper, I examine the career paths of 2,700 former special educators to see whether they returned to the public schools after leaving the first time. Using up to 13 years of longitudinal data tracking all special educators newly hired by the Michigan public schools between 1972 and 1981 who stopped teaching between 1973 and 1983, I track whether they reentered the Michigan public schools by 1985. Analyses focus on teachers' decisions as they faced two key turning points--whether to reenter the schools, and if so, how long to stay during this second spell. An estimated 34 percent of the former Michigan special educators reentered a Michigan classroom within five years of leaving and an estimated 58 percent of those who did so then stayed for more than seven years. These patterns clearly demonstrate that a return to teaching after a brief interruption may be a common career path and that the pool of former special educators is indeed a viable and vital source of teacher supply.

Once Is Not Enough:
Former Special Educators Who Return to Teaching

Teachers who leave their jobs never return, or so says the conventional wisdom. Each year in teachers' lounges across the country, stories are told of long lost colleagues now pursuing successful careers in real estate, business or government. Although primarily anecdotal, there is some empirical evidence to corroborate these tales. Former teachers who participated in a national survey conducted for the Metropolitan Life Insurance Company (1986), for example, consistently reported that their new non-teaching work lives were more satisfying and less stressful than were their previous teaching jobs, and that they were now paid better and equally satisfied with their health and retirement benefits. Over 80 percent said they were unlikely to return to teaching in the next five years.

But just as teachers' room stories may not generalize to the entire teaching force and telephone survey responses may not indicate what people will actually do, there is also evidence that some former teachers who say they will never come back to the classroom eventually return. The impetus for reentry appears even in the survey responses of former teachers: almost half reported that they had been satisfied with their previous teaching jobs; 60 percent said that they now missed teaching. And the fact of reentry appears in a recent survey of *current* teachers: Over one third of those interviewed during the 1988-89 school year had taken at least one year off from teaching earlier in their careers (National Education Association (NEA), 1989).

That former teachers return is hardly a new insight. In 1963, James Conant noted that each year "a considerable number of former teachers or those prepared some years ago enter the classroom" (p. 229). And in 1967, the NEA estimated that one third of the nation's so-called new teachers either were returning to the schools after a career interruption or were licensed a number of years earlier and were then taking their first teaching job.

Recently, however, growing awareness of the need to hire two million new teachers during the 1990s (Gerald, Horn, & Hussar, 1989) has spawned renewed interest in the career decisions of "reserve pool" members, a term used broadly to indicate not only former teachers, but all qualified teachers not currently teaching (Cagampang, Garms, Greenspan, & Guthrie, 1985; Cartledge & Halverson, 1989; Wells, 1987). A central question has been

whether former teachers reenter at rates high enough that the pool of former teachers constitutes a viable source of supply (Haggstrom, Darling-Hammond, & Grissmer, 1988). But as has been true of most research on America's teachers, special educators either have been set aside from these studies (e.g., Beaudin, 1988; Murnane, Singer, & Willett, 1988, 1989) or not characterized separately from their regular education colleagues (e.g., Berry, 1988; Chapman, 1985; Haffner & Owings, 1991; Heyns, 1988). This chronic inattention to special education reinforces calls of the Council for Exceptional Children (CEC), the National Association of State Directors of Special Education (NASDSE), and other professional groups for better data describing who delivers, and who could deliver, special education services (A Free Appropriate Education, 1989).

The research presented in this article, which focuses exclusively on former special educators, offers some of the first large-scale empirical evidence on these issues. After providing a context for studying former special educators' careers, I describe what happened to 2,700 of them as they faced two key turning points--whether to reenter the schools, and if so, how long to stay during this second spell. A follow-up to a 13-year longitudinal study of the career paths of 6,600 special educators newly hired by the Michigan and North Carolina public schools during the 1970s and 1980s (Singer, in press), the present study parallels recent work in these two states on former regular educators (Murnane et al., 1988, 1989; Murnane, Singer, Willett, Kemple & Olsen, 1991). As we will see, many former special educators do indeed return to teaching and many returning special educators ultimately teach for years to come. By understanding who is most likely to return and how long these reentrants stay, we may better appreciate who today's special educators are and better predict who tomorrow's special educators will be.

A Context for Studying Former Special Educators' Career Decisions

Since the 1975 passage of P.L. 94-142, The Education for All Handicapped Children's Act (EHA, now the Individuals with Disabilities Education Act (IDEA)), many school districts have reported difficulties finding adequate numbers of qualified teachers to serve the increasing number of children identified as having special needs (Lauritzen, 1990; Sattler & Sattler, 1985; Smith-Davis, Burke, & Noel, 1984). Compelling evidence of a discrepancy

between special educator supply and demand is presented each year by the Office of Special Education and Rehabilitation Services (OSERS) in its Annual Reports to Congress. While the number of special educators needed to fill vacancies and replace uncertified staff has leveled off in recent years, it still exceeds 25,000, or nearly 10 percent of the current special education workforce (OSERS, 1991).

To understand why so many school districts report difficulties hiring adequate numbers of qualified special educators, special education must be viewed within the larger education context. The mid 1970s and early 1980s were especially difficult for American education. Enrollment declines, budget cutbacks, and the longevity of a teaching force reaching mid-career meant fewer new positions, less job security, lower salaries, and deteriorating workplace conditions (Darling-Hammond, 1984). Many college students who once might have prepared themselves to teach instead prepared themselves to take jobs in other sectors of the economy (Turner & Bowen, 1990). Teaching, of any sort, became increasingly unattractive. In the late 1960s, nearly 40 percent of the nation's college graduates (and over 60 percent of the women) taught within five years of graduation; in the early 1980s, less than 10 percent did so (Murnane et al., 1991). By 1982, an educational career had become so unappealing that less than five percent of college freshmen expressed interest in pursuing a teaching career (Astin, Korn, & Berz, 1990).

It was amidst this backdrop of deepening retrenchment that special education, fueled by EHA, flourished (Singer & Butler, 1987). Special education became known as one of the few teaching specialties in which jobs were plentiful (Association for School, College, and University Staffing, 1982). As the total number of education degrees awarded plummeted, special education's representation in the pool mushroomed (NEA, 1982). Whereas large percentages of newly licensed teachers never set foot in a classroom, newly licensed special educators were particularly likely to secure and accept teaching jobs (Murnane & Schwinden, 1989). The net result: Special educators now comprise 13 percent of the nation's teaching force (OSERS, 1991; National Center for Education Statistics (NCES), 1991).

This returns us to the simple question--If special education has been such a magnet field, and tens of thousands of special educators have been hired during the past 15 years, why do so many districts continue to have vacancies and resort to hiring uncertified staff?

One explanation is seemingly relentless demand; since 1985, well after the institutionalization of EHA, the number of students identified as having special needs has increased by 8 percent to 4.7 million (OSERS, 1991). Another explanation lies in the newly hired teachers themselves, for it is not enough to hire new teachers; the new teachers must remain at their jobs for a while (Grissmer & Kirby, 1987). Although retirements and layoffs have not been problematic in special education, voluntary exits have (Boe, 1990; Friedman & Lauritzen, 1990). Yes, many special educators hired in response to EHA are still teaching today, but many others decided that teaching was not for them. Stress, burnout, and job dissatifaction have all emerged as recurrent and influential themes in special educators' lives (see, e.g., Chandler, 1983; Dedrick & Raschke, 1990; Fimian & Santoro, 1983; Johnson, Gold, & Vickers, 1982; McManus & Kauffman, 1991; Olson & Matuskey, 1982; Weiskopf, 1980; Zabel & Zabel, 1982). Despite recent research suggesting that there are few measurable differences between special and regular educators with respect to stress (Byrne, 1991), burnout (Farber, 1991), or job satisfaction (Billingsley & Cross, in press), it is also clear that many special educators, having tried teaching, are teaching no longer.

Estimating how many special educators have already left the schools is far from easy. It is only recently that states have installed record-keeping systems capable of monitoring personnel longitudinally (Lauritzen, 1988). Earlier studies of teachers' careers, regular and special alike, were a hodgepodge of ballpark guesses, back-of-the-envelope calculations, and dubious extrapolations from limited data (National Academy of Sciences (NAS), 1987). State administrators interviewed as part of a study of the Comprehensive System of Personnel Development, for example, reported annual attrition rates for special educators ranging from 1 to 24 percent (Shofer & Duncan, 1986). Lawrenson and McKinnon (1982), Schrag (1986), and Smith-Davis et al. (1984) noted districts with annual attrition rates as high as 30 to 50 percent. Attrition rates computed recently using computerized data files paint a more stable picture. Although higher than NCES' estimate of the regular education attrition rate (of 5 percent), Friedman and Lauritzen (1991) calculated special educator attrition rates in several states to find that they hovered between 10 to 15 percent. And using follow-up data collected as part of the NCES' Schools and Staffing Survey (SASS), Bobbitt, Faupel and Burns (1991) estimated an annual attrition rate for special educators of 7 percent.

These statistics suggest that the pool of former special educators, while obviously smaller than that of former regular educators, may be larger than the number of current special educators suggests. But before drawing this inference, note that overall attrition rates, computed without regard for years of experience, may mislead when comparing teachers at different junctures in their professional lives (Willett & Singer, 1991). Because special educators have been teaching for fewer years, on average, than regular educators (Billingsley & Cross, 1991), special educator attrition rates must be viewed in the context of the well-established pattern that less-experienced teachers are more likely to quit (Charters, 1970; Mark & Anderson, 1978, 1985). Indeed, after accounting for years of experience, Singer (in press) found striking *resemblances* between the rates at which special and regular educators leave.

What proportion of former special educators will return? Darling-Hammond and Hudson (1990) note that data unavailability has let supply and demand analysts invoke unrealistic extreme answers to this question. To support the view that there is no impending shortage, for example, Feistritzer (1986) assumed that all teachers certified after 1970 but not actually teaching were available members of the reserve pool. Equally implausible is NCES' assumption that new college graduates are the only source of supply (Gerald, 1985). This implies that all attrition is permanent--that former teachers never return.

Surveys of the backgrounds of recently hired teachers confirm that new college graduates are not the sole source of supply. According to the NEA (1987), three quarters of all teachers hired in the mid 1980s were not recent graduates, but were members of the reserve pool. And the American Federation of Teachers (1987) estimates that half the public school teachers newly hired in 1985 were returning after a break of at least one year.

Several recent longitudinal studies verify the return of former teachers. Heyns (1988) analyzed the career paths of a national probability sample of 1,000 teachers and found that many former teachers do return, and that many others predict they will. Nearly half of the former teachers indicated that they wanted to return at some point; 13 percent had already done so at least once. Chapman (1985) followed 900 teachers who graduated from the University of Michigan and found that nearly half of those who had left teaching had returned to teaching at least once. The Massachusetts Institute for Social and Economic

Research (1987) estimated that approximately 20 percent of that state's teachers who left after 1970 eventually taught again in the state. And in a longitudinal study of the career paths of 10,000 former regular educators who began their careers during the 1970s, my colleagues and I found that 28 percent of those who left eventually returned and that most of these returning teachers stayed in teaching for many more years (Murnane et al., 1991).

Who is most likely to return? Years of teaching experience emerges as a key predictor--teachers with more experience were more likely to express a desire to return (Heyns, 1988) or actually to return (Murnane et al., 1989). Demographics also play a role: women were more likely to reenter (Chapman, 1985; Heyns, 1988; Murnane et al., 1988, 1989) as were teachers who were over 30 when they left (Murnane et al., 1991). So, too, type of education delivered is a factor--elementary school teachers were more likely to return than their secondary school peers (Murnane et al., 1991). Findings about academic qualifications are mixed: while my colleagues and I found that teachers with high scores on the National Teachers' Examinations were less likely to return, Heyns (1988) found reentrants to have among the highest scores on the Scholastic Aptitude Test and Chapman (1985) found no differentials with respect to college grades.

The problem for the special education community, of course, is that we have no way of knowing whether former special educators will follow similar paths. As Parshall (1990) noted, "[i]t is very difficult to obtain data on the number of [special education] professionals who return to teaching after an absence or to obtain data on how long they were absent" (p. 10). Although there have been no major studies of former special educators career decisions, two recent studies suggest that many may return. When following up a small sample of former teachers of students with learning disabilities, Dangel, Bunch, and Coopman (1987) found that 80 percent said they could still find personal satisfaction in teaching and 40 percent planned on returning to the field in the future. And in a larger survey of 300 former special educators who transferred to general education, Billingsley and Cross (1991) found that 14 percent said they would return to special education if a suitable position became available and another 50 percent indicated that a return was possible, depending upon circumstances.

The research presented in this paper augments these studies by describing former

special educators' actions, not their reported future intents. It describes whether and, if so, when 2,700 former special educators hired in Michigan between 1972 and 1981 reentered the Michigan public schools by 1985. Two broad sets of questions guide the paper:

- What proportion of former special educators return to teaching? How long were their absences? Who is most likely to return?
- How long do former special educators who return stay the second time around? Does the length of a second spell vary by a teacher's personal and professional background characteristics?

The answers to these questions, alone and in comparison to answers from research on regular educators, provide new insights into the potential role of former special educators in staffing our nation's public schools.

Methods

The results presented in this paper are based on a longitudinal data set describing the career paths of 2,695 Black and White special educators newly hired by the Michigan public schools between 1972 and 1981 who stopped teaching by 1983. Other than student teaching, none had ever taught before in a United States public school. A profile of how long these teachers initially stayed in teaching and a discussion of factors associated with their departure was presented in a companion paper (Singer, in press). In this paper, I follow these teachers' reemployment history in the Michigan public schools through 1985.

Identifying a sample of former special educators

Teacher attrition studies have been plagued by the possibility that some teachers who leave a particular school (or school district) may not have left teaching (Boe, 1990). The parallel problem for reentry studies is that some "former" teachers may not have stopped teaching at all; they simply took a teaching job in another jurisdiction. When tracking former teachers of students with learning disabilities, for example, Dangel et al. (1987) discovered that half were still providing special education services, either in a different district or to students with different disabilities. And when tracking teachers who resigned from the Milwaukee public schools, Haberman and Rickards (1990) discovered that 70 percent were still teaching, most in the greater Milwaukee area.

To increase the likelihood that the former teachers profiled in this paper did not immediately resume teaching elsewhere, anyone who moved between schools or districts in Michigan was classified as still teaching. So regardless of where they were initially hired, each of these former special educators stopped teaching in the Michigan public schools for at least one year. The importance of not confusing inter-school or inter-district mobility with attrition was highlighted by Heyns (1988), who estimated that within 10 years of college graduation, 25 percent of teachers taught in more than one school in the same district and 40 percent taught in more than one district. Follow-up data from the SASS underscore the need to consider whether teachers who leave a school actually leave teaching: Only 41 percent of the teachers who left a public school in 1988 were not teaching in 1989, and 25 percent of these were retired (Bobbitt et al., 1991).

Data limitations prohibit tracking teachers who take teaching jobs in other states. In a review of special educator supply and demand models, Lauritzen (1988) suggests that this limitation may be minor because relatively few teachers move between states and immediately take a teaching job. Data from the SASS survey support this view--only 9 percent of the public school teachers who left a particular school did so because of a family or personal move (Bobbitt et al., 1991). Nevertheless, some people classified in this paper as former special educators undoubtedly continued teaching, without interruption, in another state. The likelihood of this career path increases when considered in light of Michigan's dire economic climate during the 1970s and 1980s. So perhaps the best way of referring to these 2,695 teachers is that they are a sample of former *Michigan* special educators.

A related issue is that I cannot track teachers who *reentered* teaching outside of Michigan. A former teacher who resumed teaching in another state would be erroneously classified as still out of teaching. Although I have no way of knowing how many teachers followed this path, I do know that the existence of out-of-state reentrants would imply that the rates of reentry reported herein are *underestimates*. Hence, these rates are conservative; if reentrants in other states could be tracked, the reentry rates would be higher.

Analyzing return decisions

For all 2,695 former special educators I know whether and, if so, when they resumed teaching in the Michigan public schools, if they did so by 1985. Thirty-five percent of the

teachers in the sample (n=939) returned within this period, virtually all (937) within seven years. But for the 65 percent (1,756) who did not return by 1985, all I know is that they were out of the Michigan schools for *at least* the number of years between their year of exit and 1985. Those who left in 1973 were out for at least twelve years; those who left in 1983 were out for at least two. While many of these teachers will never return, and some returned soon thereafter, I do know not when, or whether, they ever did so. Such observations are said to be *censored* (Singer & Willett, 1991).

Willett and Singer (1989, 1991) catalog the methodological problems created by teachers with censored career histories. The most serious dilemma is that athough we know something about them--if they ever return they will do so after data collection ends--our knowledge is imprecise. All we know is that until their careers were censored, they were (theoretically) eligible to return and for whatever reason, did not; after the time of censoring, we know nothing more. If a teacher was censored at five years, for example, we know only that he or she did not return in each of the first four years; we do not know what happened thereafter. Because of this information shortfall, Willett and Singer (1991) suggest that researchers not directly study how long teachers stay out of teaching (which is unknown for censored teachers), but instead study the return decisions of former teachers in each year they were eligible to do so (which are known for everyone--non-censored and censored teachers alike). To do so, they recommend use of discrete-time survival analysis, a relatively new analytic technique proving especially applicable to the study of teachers' careers (Murnane et al., 1988, 1989, 1991; Singer, in press). An overview of survival methods is given in three recent papers (Singer & Willett, 1991, in press; and Willett & Singer, 1991); below I highlight the features necessary for understanding the results presented here.

As applied to former teachers' careers, discrete-time survival analysis focuses on the probability that a former teacher returns in any particular year, *given that he or she had not returned until that year*. This conditional probability, called the *hazard rate*, measures the *rate of reentry* in that year among teachers who did not teach through all previous years. Like any statistical quantity, the hazard rate can be estimated from sample data. If many

teachers return after one year, the estimated first year rate of reentry is high; if few teachers who stay out for five years return in year five, the fifth year rate is low. Plots of reentry rates versus time out of teaching (as in Figure 1) describe how the rate fluctuates over time. Five-year return rates cumulate these risks and estimate the percentage of a cohort of teachers that returns within five years of leaving.

Relationships between the rate of reentry and predictors can be explored by fitting discrete-time hazard models. The results presented in this paper are based on a series of such models that linked the rate of reentry, on one hand, to teacher and job characteristics on the other. Available predictors were descriptors of the teachers': (a) first spell in teaching (its length and concluding year); (b) personal background (age, sex, and race); and (c) job responsibilities--grade level and type of students taught. Initial models explored the effects of characteristics of the teachers' first spell. Subsequent models examined the effects of demographics after controlling for first spell characteristics. Final models explored the effects of job responsibilities after controlling for all other predictors. All comparisons cited in the paper are significant at the .05 level.

At every stage of model building, I explored the main effects of each predictor and two types of interactions--among pairs of predictors and between each predictor and time. The first type of interaction enabled me to determine whether the relationship between rate of reentry and each predictor differed by values of any other predictor. The second type of interaction enabled me to determine whether the relationship between the rate of reentry and each predictor depended upon how long the teacher had been out of teaching.

Second spells in teaching

For the 763 former special educators who returned before 1984 I have additional data--I know whether and, if so, when they left the Michigan public schools before 1985. Thirty-seven percent of the teachers in the sample (n=286) left within this period; 63 percent (n=477) did not. Like the former special educators who did not return, these 477 reentrants have censored career histories. I therefore used discrete-time survival analysis to model the probability that a returning teacher *left* in any particular year, *given that he or she had taught continuously until that year.*

Results

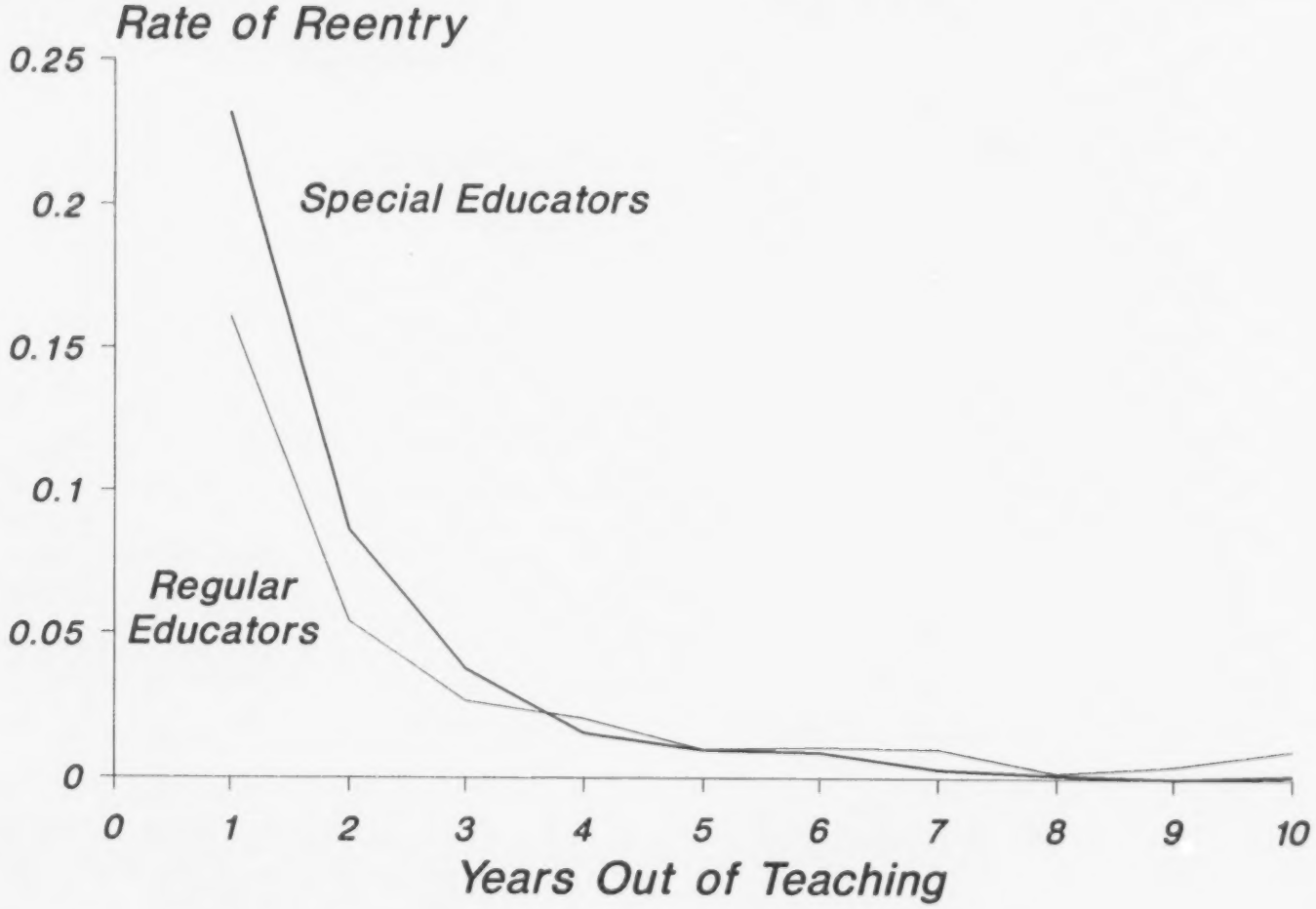
How long do former special educators stay out of teaching?

Former special educators are most likely to return to teaching soon after leaving; the longer they stay away from the classroom, the less likely they are to return. This pattern is illustrated by the darker lines in Figure 1, which presents the rate of reentry for former special educators by the length of time they have been out of teaching. Nearly one quarter of the former special educators (23 percent) returned after one year. Among those who did not return after one year, 9 percent returned after two; among those who did not return after two years, 4 percent returned after three. After three years of not teaching, the rates of reentry fell even further. Teachers still out after three years were unlikely to return in any of the next eight; in each subsequent year, less than 1 percent of the remaining pool came back.

[insert Figure 1 here]

This overall pattern is, of course, not surprising. Teachers who leave their jobs for only one year have likely taken a leave of absence to care for children, to return to school, or for other personal reasons. Many intend to return to the classroom, and those who do, return quickly. Many of those who spend three or more years away from the classoom, in contrast, find work in other fields and do not want to reenter teaching; others will stay out for extended periods of time, reentering after completing child-rearing. While these data do not describe what happened to former special educators who stayed out for more than eleven years, the consistently low rates of reentry after five or more years out of the classroom suggests that the annual proportion of very late reentrants is small and therefore is not a major source of supply.

Despite the rapid decline over time in rates of reeentry, the cumulative probability that former special educators return is quite high. An estimated 34 percent of all the special educators who left the Michigan public schools between 1972 and 1981 returned within five years. This rate is 6 points higher than the 28 percent five-year return rate my colleagues and I estimated for regular educators not only in Michigan, but in North Carolina and across the nation as well (Murnane et al., 1991). Indeed, comparison of the year by year reentry rates among former regular and special educators (as shown in Figure 1) reveals that in


Rate of Reentry
0.25
0.2
0.15
0.1
0.05
0
Special Educators
Regular
Educators
0
1
2
3
4
5
6
7
8
9
10
Years Out of Teaching

each of the first three years out of teaching, special educators are more likely than their regular education colleagues to return. This suggests that the role of returning teachers as a source of supply may be even greater in special education than in regular education.

Before drawing this inference, however, we must recognize that some former special educators who return do not immediately teach special needs students. Fourteen percent of the returning special educators in this sample took other assignments upon reentry. Were we to discount these returns, the rates of reentry shown in Figure 1 would diminish, to 20 percent after one year, another 7 percent after two years, for a total of 30 percent after five years. But discounting returns to non-special education assignments may mislead further because 25 percent of such returning teachers switched back to special education during their second spell, over half after only one year. And among those who did not switch back to special education, two-thirds were still teaching when data collection ended; they may still switch in the future. To ensure that the chosen definition of return did not unduly affect the findings reported herein, all analyses were repeated defining reentry as resumption of special education services. Because no appreciable differences were found, the results presented reflect a return to public education of any sort; this insures consistency with definitions of return used in other studies of former teachers (Berry, 1988; Chapman, 1985; Haffner & Owings, 1991; Heyns, 1988; Murnane et al., 1988, 1989, 1991).

Does teaching experience and year of leaving make a difference?

Each former special educator had taught previously in the Michigan public schools for at least one year. Because the risk of leaving a first spell in teaching is highest in the first few years after hire, many former special educators are fairly inexperienced. In this sample, 26 percent had taught for only one year, 21 percent had taught for only two years, 17 percent had taught for only three years; the remaining 35 percent had taught for four to eleven years. Termination of data collection in 1985 produced an inevitable relationship between the length of first spell and the length of follow-up--more experienced teachers had shorter follow-up periods. Despite this linkage, I was able to model correctly the relationship between experience and reentry because everyone had at least one year of follow-up data describing what happenened when he or she theoretically *could* have reentered; teachers who did not return during data collection were simply censored.

The longer a former special educator had taught, the more likely he or she was to return. For each extra year of experience, the estimated odds of return were 9 percent higher. Although at first glance this effect appears small, it cumulates into sizable differences in return behavior. Consider former special educators with two different levels of experience: those who left their first jobs after only one year ("inexperienced" teachers) and those who left after seven ("experienced" teachers). After one year out of the classroom, an estimated 30 percent of the experienced teachers returned as compared to only 20 percent of their inexperienced colleagues. And because experienced teachers who have not yet returned remain more likely to do so, five-year return rates diverge further: 43 percent among experienced teachers versus 29 percent among inexperienced ones.

As Grissmer and Kirby (1987) suggest, the relationship between years of experience and the decision to reenter teaching can be explained by the principles of human capital theory (Becker, 1964). Each additional year that a teacher remains in the schools, he or she accrues additional "human capital," especially occupation-specific capital, skills and knowledge not easily applied outside of education. After one or two years in the classroom, inexperienced teachers have little occupation-specific capital: their low salaries make retraining the primary cost of changing occupations. Experienced teachers, in contrast, have much to lose if they pursue a career outside the schools. Not only do they face retraining costs, they must forfeit tenure and forego an experienced teacher's salary. Reentry maximizes their economic return on accrued capital and minimizes additional costs, and so many do, in fact, reenter.

Yet not all teachers with the equal amounts of experience are equally likely to reenter. Another consideration for these Michigan special educators was the particular year they left. Teachers who left between 1978 and 1981 were especially unlikely to return. Controlling for experience, the estimated odds of return among these teachers were approximately one third lower than they were among their colleagues who left before 1978 or after 1981. The long term impact of this "year of exit" effect can be seen in the differential five-year return rates. Among inexperienced teachers, an estimated 25 percent of those who left between 1978 and 1981 returned within five years as compared to 38 percent of those who left at any other time. Among experienced teachers, the rates are 39

percent and 48 percent, respectively.

Why is the particular year when teachers left associated with return rates? Those few studies that have looked for such variation in teachers' career paths often find "year of exit" effects; they commonly reflect the consequences of involuntary layoffs (Singer & Willett, 1988). Although special educators were rarely laid off, the late 1970s and early 1980s--the anomolous years in this data set--were particularly difficult ones for education in the nation as a whole and for Michigan in particular. Economic instability and declining education budgets led to temporary and permanent reductions in force (RIFs). Even teachers who left voluntarily during this period may have felt bitter about the schools; those who left involuntarily may have had little choice but to change careers. Given this environment, it comes as no surprise that special educators who left during this time--voluntarily or not--were less likely to return.

But perhaps the more important implication of the "year of exit" effect is that it renders conservative the rates of return computed across the entire sample of former special educators. Among special educators who left their initial teaching jobs in more stable times--before *and* after this volatile period--a larger fraction returned. Viewing the period between 1978 and 1981--the RIF years--as atypical, we might anticipate that in the future, an even larger fraction of former special educators may return.

Demographic differentials in return behavior

Most studies of regular educators have found that the demographic group most likely to leave--young women--is also the group most likely to return (Heyns, 1988; Murnane et al, 1988, 1989, 1991). The popular explanation for this pattern is that many women who leave teaching do so to stay at home with children. When they are ready to reenter the labor force, they return to the schools in part because teaching provides a work schedule particularly compatible with childcare needs (Lortie, 1975). In this sample of former special educators, however, a teacher's sex or age was unrelated to the rate of reentry; men and women, young and old, were equally likely to return.

But there was a pronounced race differential: The estimated odds of return were 50 percent higher for former special educators who were Black. Among those with only one year of experience, the five-year return rate was 32 percent for Whites and 48 percent for

Blacks; among those with seven years of experience, the comparable figures were 48 and 60 percent.

Although these race differentials may reflect an unfortunate *lack* of employment opportunity in other sectors of the economy, it comes as good news for the schools. Recent years have seen a growing disparity between the racial composition of the nation's teaching force and the racial composition of the student body (Baratz-Snowden, 1986). Although the gap is even wider in regular education (American Association of Colleges of Teacher Education, 1988), the special education gap is large enough that the joint statement on personnel issued by CEC, NASDSE, and others during EHA's reauthorization hearings specifically highlighted the need to recruit and train special educators of color (A Free Appropriate Education, 1989). These differential reentry rates suggest that for Black teachers in particular, drawing from the pool of former special educators may be one way to achieve this goal.

Are certain types of special educators more likely to return?

When these former special educators began their teaching careers, they were responsible for diverse types of students. Just as the risk of ending that first spell differed by the type of student served (Singer, in press), so, too, did the rate of reentry (although the effects are smaller). Table 1 presents estimated one-year and five-year rates of reentry for former special educators with one and seven years of experience computed for White teachers who left during the non-RIF years. The estimates are based on a discrete-time hazard model that included statistical controls for the teachers' length of first spell, year of exit, and race; because no statistically significant differences were found by grade level taught, this variable was not included in the model.

[insert Table 1 here]

The two groups of special educators least likely to return were among those most likely to leave the schools in the first place--those providing support services (counseling, social work, guidance, and so on) and those providing speech therapy. The low rates of return for these two groups are not simply artifacts of experience differentials; the low return rates persisted in models that controlled statistically for length of first spell. Among White experienced teachers, for example, 52 percent of those who served students with

Table 1. Estimated rates of reentry after one year and five years out of teaching, for by years of experience and student assignment.

Student Assignment	After one year		After five years	
	3 years of experience	7 years of experience	3 years of experience	7 years of experience
Mentally retarded	28	36	41	52
Emotionally disturbed	26	34	38	49
Hearing/vision impaired	25	33	37	48
Learning disabled	24	32	36	46
Physically/multiply handicapped	24	31	35	46
Speech impaired	21	28	32	42
Support services	20	27	30	40

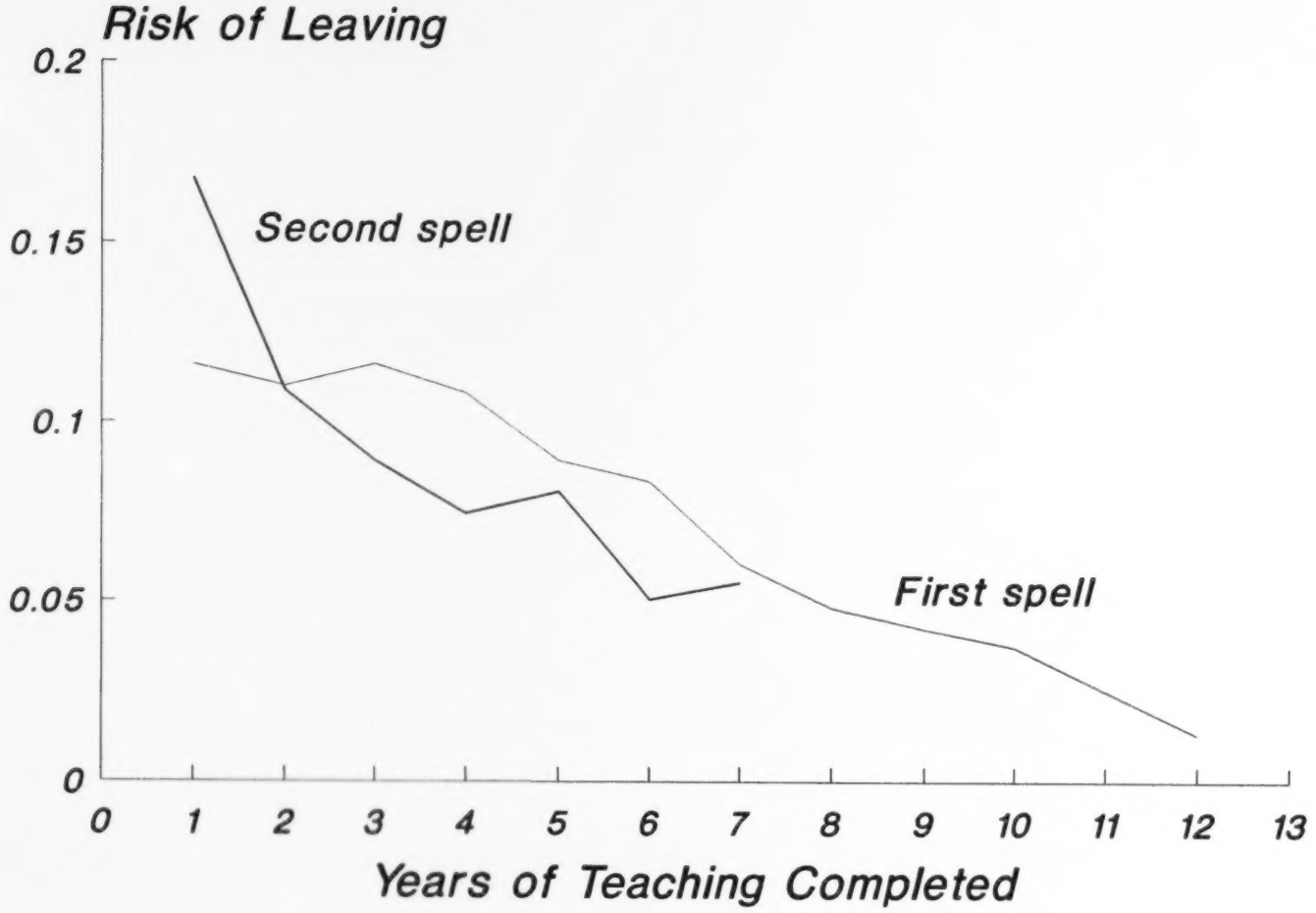
Note: Estimates are for White former special educators who ended their first spell in teaching before 1978 or after 1981.

mental retardation returned within five years as compared to only 42 percent of those providing speech therapy and 40 percent of those providing support services. Among White inexperienced teachers, the comparable rates were 34 percent versus 27 and 26 percent, respectively. Although the rates of reentry among teachers of other types of students varied as well, these differentials were small and not statistically significant.

The finding that social workers, psychologists, speech therapists, and other non-classroom professionals are least likely to return provides further support for what is known in the teacher supply and demand literature as the "opportunity cost hypothesis." In 1965, Joseph Kershaw and Ronald McKean hypothesized that uniform salary schedules, which base pay on degrees completed and years of experience, render the "opportunity cost" of teaching too high for people with skills marketable outside the schools. Among special educators, non-classroom professionals have the highest opportunity costs for they are most likely to have the skills that make them attractive to non-education employers (such as hospitals and nursing homes) or that allow them to work in private practice. The differential reentry rates show that when they leave education, many find attractive alternative opportunities elsewhere and so a smaller proportion of them return to the schools. That said, however, the return of 30 to 40 percent of the support professionals is non-negligible and probably reflects the continuing attraction of the schools for some people who could make more money doing something else.

How long do returning special educators stay?

Returning former special educators would be a inconsequential source of teacher supply if most of those who returned soon left the schools again. But as shown in Figure 2 (the darker lines), many returning special educators do indeed stay at their new jobs for long periods of time. Although 17 percent left by the end of their first year, the risk of leaving in each successive year was much lower. Among those who continued after one year, only 11 percent left by the end of the second; among teachers who continued after two years, only 9 percent left by the end of the third. By the sixth year, only 5 percent of the remaining teachers left. Cumulating these annual risks, an estimated 58 percent of the former special educators were still teaching 5 years after reentry. In fact, the risk of leaving declines such that I cannot estimate the number of years it takes for half the returning


Risk of Leaving
0.2
0.15
0.1
0.05
0
Second spell
First spell
0 1 2 3 4 5 6 7 8 9 10 11 12 13
Years of Teaching Completed

teachers to leave; all I know is that after 7 years, more than half of the returning teachers were still teaching.

[insert Figure 2 here]

The temporal profile of the risk of leaving teaching among former Michigan special educators closely resembles that found among newly hired Michigan special educators (as shown by the faint lines in Figure 2). Whether entering for the first time, or reentering after a career interruption, the first year on the job is the riskiest; teachers who survive this initial period are less likely to leave in each subsequent year. Although the risk of leaving in the first year is higher among reentrants than it is among new hires, the reverse holds in the following years--reentrants are *less* likely to leave. The net result: Newly hired and reentered special educators have virtually identical five-year survival rates: 57 percent among new hires and 58 percent among returnees.

Predictors of variation in the risk of ending a second spell

Because only 763 teachers returned by 1984 and only 286 of them had left by 1985, analyses of second spell exit decisions have less statistical power than did analyses of first spell exit decisions or analyses of reentry decisions. Given these sample sizes, I could only detect reasonably large effects (Singer & Willett, 1991). This means that a predictor not found to be significantly associated with the risk of leaving teaching might still be an important indicator of second spell decisions. The following results are therefore best considered descriptive, not definitive.

Years of prior teaching experience emerged as a key predictor of the length of a teacher's second spell. Former special educators who had originally taught for three or four years were most likely to leave; those with more experience *or less experience* were less likely to do so. For example, an estimated 72 percent of the reentrants with seven years of experience were still teaching five years into their second spell in comparison to 60 percent of those who had only one year of experience and 53 percent of those who had three years.

The stability of experienced reentrants is likely another illustration of the role of opportunity costs in teacher decision-making. Experienced reentrants, with their cumulative years of professional investment and their higher placement on salary ladders, stand to lose a great deal if they leave the schools again; hence, upon return, many of them remain for

extended periods of time. Inexperienced reentrants, in contrast, have little to lose by leaving again, and so they do, in larger numbers. The marked instability of moderately experienced reentrants is less easily understood, however, although the aftermath of tenure deliberations may hold the key. Teachers with three or four years of experience may be those who ended their first spells because of, or in anticipation of, an unfavorable tenure decision. If so, it would not be unusual for these teachers to encounter the same problems again and hence leave the schools even after their return.

Differences among demographic groups closely paralleled those found when studying the stay-or-leave decisions of beginning special educators. Among returning special educators and beginning special educators alike, the estimated odds of leaving among women were twice as high as they were among men. Five years after reentry, the schools were left with only 56 percent of the women as compared to 74 percent of the men. Age also continued to play a role; the odds of leaving among teachers who were 30 or under when they reentered were over twice as high as they were among more mature reentrants.

But perhaps the most striking differential pattern in the second spell decisions is the effect of race: The estimated odds that a returning Black special educator would stay in teaching were over three times higher than they were for a returning White special educator. This differential risk is reflected in the divergent five-year survival rates: 52 percent for Whites versus 81 percent for Blacks. So former Black special educators were more likely to return to teaching, and those who did, were more likely to stay.

Implications

Can former special educators help solve the chronic shortage of special educators in our nation's public schools? The evidence presented here takes us beyond the prescient generalization of Joseph Kershaw and Ronald McKean (1963) who noted that "many [teachers] who leave their jobs...may be willing to take up teaching again, so at any time, there is a large number of potential teachers who are off the market temporarily" (p. 13). Many former special educators are much more than *willing* to take up teaching again--many do so and then stay for extended periods of time. An estimated 34 percent of the former Michigan special educators reentered a Michigan classroom within five years of leaving and

an estimated 58 percent of those who did so then stayed for more than seven years. The conclusion: *Former special educators are indeed a viable and vital source of teacher supply.*

These data describe the behavior of teachers in only one state; what happened in Michigan may not be representative of patterns elsewhere. Even in this single state, reentry rates varied depending upon when the teachers left; those who left between 1978 and 1981--when layoffs and RIFs were wreaking havoc on the Michigan public schools--were less likely to return. In light of this legitimate concern, it is worth noting that I found similar reentry patterns in a smaller sample of former special educators in North Carolina. Among the 1,209 former special educators hired between 1974 and 1983 who stopped teaching by 1984, an estimated 26 percent taught in the North Carolina public schools within five years of leaving. Although we still need data describing the employment histories of former special educators in other states, the comparability between these two quite different locales further suggests that former teachers constitute a practical source of supply.

Former special educators have one particularly noteworthy advantage as a potential source of supply--by definition, they all have some teaching experience. Previous research has shown that novice teachers make marked gains in effectiveness during their first few years on the job (Murnane & Phillips, 1981). Add to this the fact that more experienced teachers are more likely to return and more experienced reentrants are more likely to stay, and the pool of former special educators constitutes a rich source of seasoned personnel. Indeed, school districts facing chronically high attrition rates of new special educators might consider the advantages of filling new positions with former special educators rather than repeatedly replacing novices who stay for only one or two years.

The advantages of experience notwithstanding, it is also worth noting that not all reentrants stay in the classroom for extended periods of time. While the vast majority do stay--the median length of a second spell in teaching exceeds seven years, the median length of the first spell in Michigan--the risk that a reentrant leaves after only one year back is especially high. In Michigan, an estimated 17 percent of the returning former special educators left immediately after one year; in the North Carolina, 16 percent did so. In both states, the risk of leaving in the first year on the job is higher among reentrants than among newly hired teachers, although all subsequent risks are much lower. These high first-year

attrition rates suggest that reentering teachers, like novices, may need special guidance and mentoring (Rosenholz, 1989). Just because reentrants have several years of teaching experience does not make them identical to their colleagues who taught continuously without interruption. Administrators and colleagues should perhaps treat them as another type of new teacher and support them accordingly.

Special educational planners and policymakers can also take at least four specific lessons away from this research. First, it is clear that not all special educator attrition is permanent; many special educators who leave the schools soon return, in perhaps even greater proportions than their regular education colleagues. Second, not all former special educators are active members of the reserve pool. The active members are those teachers who left in the past few years; approximately one of every three or four will return. The inactive members are those who left more than five or so years ago; only a negligible fraction (less than one percent) will return in any given year. Third, these rates of reentry can be used in teacher supply and demand models to estimate how many former special educators will return in any given year. Although we still need to learn more about licensed special educators who never taught, we can use the data presented here to predict the behavior of at least one component of the reserve pool. Fourth, these analyses show that it is possible to monitor the ebb and flow of teachers in the schools. All that is required is a longitudinal data base for tracking individual teachers as they move in and out of teaching. States and school districts that have not yet done so should consider establishing such data systems so that we can make more accurate projections of teacher supply in the years ahead.

References

A free appropriate public education: But who will provide it? (1989). Testimony to the Senate Subcommittee on the Handicapped and the House Subcommittee on Select Education.

American Federation of Teachers (1987). *Survey and Analysis of Salary Trends*, Washington, DC: Author.

Association for School, College, and University Staffing (1982). *Teacher Supply and Demand: 1982*, Madison, WI: Author.

Astin, A. W., Korn W. S., & Berz, E. R. (1990). *The American Freshman: National Norms for Fall 1990*. Los Angeles, CA: Cooperative Institutional Research Program.

Baratz-Snowden, J. C. (1986). Black participation in the teacher pool, paper prepared for the Carnegie Forum on Education and the Economy.

Beaudin, B. Q. (1988). Former teachers: A study of the characteristics of teachers who return to the public school workforce. Unpublished doctoral dissertation, Harvard University, Graduate School of Education.

Becker, G. S. (1964). Human capital. New York: National Bureau of Economic Research.

Berry, B. (1988). Labor market choices and teacher reform: Policy options for the public schools of the twenty-first century. *Teaching and Teacher Education*, *4*, 71-81.

Billingsley, B. S., & Cross, L. H. (1991). Teachers' decisions to transfer from special to general education. *The Journal of Special Education*, *24*, 496-511.

Billingsley, B. S., & Cross, L. H. (in press). Predictors of commitment, job satisfaction, and intent to stay in teaching: A comparison of general and special educators. *The Journal of Special Education*.

Bobbitt, S. A., Faupel, E., & Burns, S. (1991). Characteristics of stayers, movers, and leavers: Results from the teacher followup survey, 1988-89. Washington, DC: National Center for Education Statistics.

Boe, E. (1990). Comprehensive Rentention and Attrition Model. Unpublished manuscript. Philadelphia, PA: University of Pennsylvania.

Byrne, B. M. (1991). Burnout: Investigating the impact of background variables for elementary, intermediate, secondary and university educators. *Teaching and Teacher Education*, *7*, 197-209.

Cagampang, H. H., Garms, W. I., Greenspan, T. J., & Guthrie, J. W. (1985). Is the reserve pool a realistic source of supply? *Teacher Education Quarterly, 12*, 13-44.

Cartledge, C. M., & Halverson, S. P. (1989). The supply side of the teacher labor market in the southeast: A study of the characteristics of newly hired teachers and perceptions about teacher supply and demand. Research Triangle Park, NC: Southeastern Educational Improvement Lab.

Chandler, H. N. (1983). The loneliness of the special education teacher. *Journal of Learning Disabilities, 16*, 126-127.

Chapman, D. W. & Green, M. S. (1985). Teacher retention: A further examination. *Journal of Educational Research, 79*, 273-279.

Charters, W. W. (1970). Some factors affecting teacher survival in school districts. *American Educational Research Journal, 7*, 1-27.

Cherniss, C. (1988). Observed supervisory behavior and teacher burnout in special education. *Exceptional Children, 54*, 449-454.

Conant, J. B. (1963). *The Education of American Teachers*. New York: McGraw-Hill.

Dangel, H. L., Bunch, A. W., & Coopman, A. (1987). Attrition among teachers of learning disabled students. *Learning Disabilities Focus, 2*, 80-86.

Darling-Hammond, L. (1984). *Beyond the commission reports: The coming crisis in teaching*. Santa Monica, CA: Rand Corporation.

Darling-Hammond, L., & Hudson, L. (1990). Precollege science and mathematics teachers: Supply, demand, and quality. In C. B. Cazden (Ed.), *Review of Research in Education, 16*, (pp. 223-264). Washington, DC: American Education Research Association.

Dedrick C. V. L., & Raschke. D. B. (1990). The special educator and job stress. Washington, DC: National Education Association.

Farber, B. A. (1991). *Crisis in education: Stress and burnout in the American teacher*. San Francisco: Jossey-Bass.

Feistritzer, C. E. (1986). *The teacher crisis: Myth or reality*? Washington, DC: National Center for Education Information.

Fimian, M. J., & Santoro, T. M. (1983). Sources and manifestations of occupational stress as reported by full-time special education teachers. *Exceptional Children, 49*, 540-543.

Gerald, D. E. (1985). *National and state perspectives on teacher turnover.* Unpublished report for the Office of Educational Research and Improvement, Center for Statistics, Condition of Education Division.

Gerald, D. E., Horn, P. J., & Hussar, W. J. (1989). *Projections of Education Statistics to 2000.* (Washington, DC: National Center for Education Statistics).

Grissmer, D. W. & Kirby, S. N. (1987). *Teacher Attrition: The Uphill Climb to Staff the Nation's Schools*, Santa Monica, CA: Rand Corporation.

Haberman, M. & Rickards, W. H. (1990). Urban teachers who quit: Why they leave and what they do. *Urban Education, 25*, 297-303.

Haffner, A., & Owings, J. (1991). Careers in teaching: Following members of the high school class of 1972 in and out of teaching. Washington, DC: National Center for Education Statistics.

Haggstrom, G. W., Darling-Hammond, L., & Grissmer, D. W. (1988). *Assessing Teacher Supply and Demand*, Santa Monica, CA: Rand Corporation.

Heyns, B. (1988). Educational defectors: A first look at teacher attrition in the NLS-72, *Educational Researcher, 17*, 24-32.

Johnson, A. B., Gold, V., & Vickers, L. L. (1982). Stress and teachers of the learning disabled, behavior disordered, and educable mentally retarded. *Psychology in the Schools, 19*, 552-557.

Kershaw, J. A., & McKean, R. N. (1962). *Teacher Shortages and Salary Schedules*. New York: McGraw-Hill.

Lauritzen, P. (1988). The measurement of personnel needs in special education. Washington, DC: National Clearinghouse for Professions in Special Education.

Lauritzen, P. (1990). How critical is the special education teacher shortage? Paper presented at the annual meeting of the Council for Exceptional Children, April.

Lauritzen, P. & Friedman, S. J. (1991). Teachers for children with emotional/behavioral disorders: Education's greatest challenge. *Preventing School Failure, 35*, 11-16.

Lawrenson, G. M., & McKinnon, A. J. (1982). A survey of classroom teachers of the emotionally disturbed: Attrition and burnout factors. *Behavioral Disorders, 8*, 41-49.

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago, IL: University of Chicago Press.

Mark, J. H. & Anderson, B. D. (1978). Teacher survival rates: A current look, *American Educational Research Journal, 15*, 379-383

Mark, J. H. & Anderson, B. D. (1985). Teacher survival rates in St. Louis, 1969-1982, *American Educational Research Journal, 22*, 413-421.

Massachusetts Institute for Social and Economic Research (1987). *Report on the status of teacher supply and demand in Massachusetts*, Boston, MA: Author.

McManus, P., & Kauffman, J. (1991). A survey of teachers of students with behavioral disorders. *Behavioral Disorders*.

Metropolitan Life Insurance Company (1986). *Former Teachers in America*. New York: Author.

Murnane, R. J., & Phillips, B. (1981). Learning by doing, vintage, and selection: Three pieces of the puzzle relating teaching experience and teaching performance. *Economics of Education Review, 1*, 453-465.

Murnane, R. J., & Schwinden, M. (1989). Race, gender, and opportunity: Supply and demand for new teachers in North Carolina: 1975-1985. *Educational Evaluation and Policy Analysis, 11*, 93-108.

Murnane, R. J., Singer, J. D., & Willett, J. B. (1988). The career paths of teachers: Implications for teacher supply and methodological lessons for research, *Educational Researcher*, 17, 22-30.

Murnane, R. J., Singer, J. D., & Willett, J. B. (1989). The Influences of Salaries and Opportunity Costs on Teachers' Career Choices: Evidence from North Carolina, *Harvard Educational Review, 59*, 325-346.

Murnane, R. J., Singer, J. D., Willett, J. B., Kemple, J. J., & Olsen, R. J. (1991). *Who Will Teach?: Policies that Matter*. Cambridge, MA: Harvard University Press.

National Academy of Sciences (1987). *Towards Understanding Teacher Supply and Demand: Priorities for Research and Development*. Interim report, Panel on Statistics on Supply and Demand for Precollege Science and Mathematics Teachers, Washington, DC: National Academy Press.

National Center for Education Statistics (1991). *Digest of Education Statistics 1991*. Washington, DC.

National Clearinghouse for Professions in Special Education (1988). The decline in special education degrees conferred. Washington, DC: National Assocation of State

Directors of Special Education.

National Education Association (1982). *Teacher Supply and Demand in Public Schools, 1981-82*, Washington, DC: Author.

National Education Association (1967). *Status of the American Public School Teacher: 1965-66*. Washington, DC: Author.

National Education Association (1987). *Status of the American Public School Teacher: 1985-86*. Washington, DC: Author.

National Education Association (1989). *Status of the American Public School Teacher: 1988-89*. Washington, DC: Author.

Olsen, J., & Matuskey, P. V. (1982). Causes of burnout in SLD teachers. *Journal of Learning Disabilities*, *15*, 97-99.

Office of Special Education and Rehabilitative Services (1991). *Thirteenth Annual Report to Congress on the Implementation of PL 94-142*, Washington, DC.

Office of Special Education and Rehabilitative Services (1988). *Tenth Annual Report to Congress on the Implementation of PL 94-142*, Washington, DC.

Parshall, L. (1990). A study of the special education workforce in Michigan. Washington, DC: Decision Resources Corporation.

Rosenholtz, S. J. (1989). Workplace conditions that affect teacher quality and commitment: Implications for teacher inducation programs. *The Elementary School Journal*, *89*, 421-439.

Sattler, E. L., & Sattler, J. L. (1985). Economic realities of special education. *Teacher Education and Special Education*, *8*, 98-103.

Schofer, R. C., & Duncan, J. R. (1986). A study of certain personnel preparation factors in special education, *The Journal of Special Education*, 20, 61-68.

Schrag, J. (1986). Implementation of P. L. 94-142 and its accomplishments, problems and future challenges: A state education agency perspective. In H. J. Prehm (Ed.), *The Future of Special Education*. Washington, DC: Council for Exceptional Children.

Singer, J. D. (in press). Are special educators' careers special? *Exceptional Children*.

Singer, J. D., & Butler, J. B. (1987). The Education for All Handicapped Children Act: Schools as Agents of Social Reform. *Harvard Educational Review*, *57*, 125-152.

Singer, J. D., & Willett, J. B. (1988). Detecting involuntary layoffs in teacher survival data: The year of leaving dangerously, *Educational Evaluation and Policy Analysis*, 10, 212-224.

Singer, J. D., & Willett, J. B. (in press), Using discrete time survival analysis in educational research. *Journal of Educational Statistics*.

Singer, J. D., & Willett, J. B. (1991), Modeling the days of our lives: Using survival analysis in the design and analysis of longitudinal studies of duration and the timing of events. *Psychological Bulletin*, *110*, 268-290.

Smith-Davis, J., Burke, P. J., & Noel, M. M. (1984). *Personnel to Educate the Handicapped in America: Supply and Demand from a Programmatic Viewpoint*, Institute for the Study of Exceptional Children and Youth, University of Maryland, College Park.

Turner S. E., & Bowen, W. G. (1990). The flight from the arts and sciences: Trends in degrees conferred. *Science*, *250*, 517-521.

Wells, A. S. (1987). Wanted: A million schoolteachers. *The New York Times*, Education Life, April 12, (Section 12) pp. 29-30.

Weiskopf, P. E. (1980). Burnout among teachers of exceptional children, *Exceptional Children*, *47*, 18-23.

Willett, J. B. & Singer, J. D. (1989). Two types of question about time: Methodological issues in the analysis of teacher career path data, *International Journal of Educational Research*, *13*, 421-437.

Willett, J. B., & Singer, J. D. (1991). From whether to when: New methods for studying student dropout and teacher attrition, *Review of Educational Research*,

Zabel, R. H. & Zabel, M. K. (1982). Factors in burnout among teachers of exceptional children, *Exceptional Children*, *49*, 261-263.

Figure Captions

1. *Rate of reentry into teaching* after ending a first spell plotted against the length of time teachers have been out of the classroom for former special educators (dark lines) and former regular educators (light lines).

2. *Risk of leaving teaching in each year* among special educators during their second spell (dark lines) and first spell (light lines).